

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Shunpei Yamazaki et al. Art Unit : 2812  
Serial No. : 10/081,971 Examiner : Savitri Mulpuri  
Filed : February 20, 2002 Conf. No. : 2205  
Title : METHOD AND APPARATUS FOR FILM DEPOSITION

Commissioner for Patents  
P.O. Box 1450  
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REPLY TO ACTION OF JUNE 27, 2006

Claims 1-11, 19, 20 and 24-64 are pending, with claims 1, 19, 20, 33, 44, 51, 57 and 61 being independent.

Applicant acknowledges with appreciation the Examiner's allowance of claims 20 and 51-54.

Claims 1-11, 19, 24-49 and 55-64 have been rejected as anticipated by Jung (U.S. Patent Publication No. 2002-0018912A). With respect to independent claims 1, 19, 33 and 44, and their dependent claims, applicant again requests reconsideration and withdrawal of this rejection because Jung does not describe or suggest forming a mixed region comprising a mixture of first and second organic compounds during irradiation with light in the deposition chamber, as recited in independent claims 1, 19, 33 and 44.

Rather, as previously noted, Jung describes formation of a polymer thin film that, as noted in paragraph [0036] of Jung, may include the simultaneous deposition of two or more organic compounds. A polymer (i.e., "a naturally occurring or synthetic substance consisting of giant molecules formed from polymerization") is significantly different from a mixture (i.e., "a substance containing two or more ingredients: distinguished from a compound in that the constituents are not in fixed proportions, do not lose their individual characteristics, and can be separated by physical means"). Jung's polymer thin film is not a mixture and does not have the properties of a mixture. For example, once polymerization has occurred to form the polymer thin film, the two or more constituent organic compounds used to form the polymer thin film would not seem to be separable by physical means.

In response to these arguments, the rejection appears to acknowledge that Jung does not describe or suggest forming a mixed region comprising a mixture of first and second organic compounds during irradiation with light in the deposition chamber. The Examiner then goes on to argue, apparently, that Jung inherently discloses forming a mixed region including first and second organic compounds. Thus, the rejection appears to ignore the "mixture" limitation of claims 1, 19, 33 and 44, which is clearly improper.

The response to arguments also makes reference to So (U.S. Patent No. 5,925,980). However, this reference to So is not understood in the context of an anticipation rejection based on Jung. If the Examiner intends to make an obviousness rejection based on a combination of Jung and So, applicant respectfully requests that the Examiner set forth such a rejection in sufficient detail to permit applicant to respond.

For at least these reasons, the rejection of claims 1, 19, 33 and 44, and their dependent claims, should be withdrawn.

With respect to independent claims 33 and 44, and their dependent claims, applicant requests reconsideration and withdrawal of the rejection for the additional reason that Jung does not describe or suggest irradiating to activate the organic compound molecules and promote compact film formation. This irradiation and the resulting compactness is illustrated in Fig. 3A of the application and discussed, for example, at paragraphs [0063] to [0066]. Jung simply does not describe such activating of the organic compound or compacting of the film. Though the rejection indicates that Jung teaches irradiation during deposition to result in compact film formation, Jung nowhere indicates that compact film formation is promoted. In particular, while the rejection indicates that such compact film formation is shown in Fig. 2 and the related description and paragraph [0062] of Jung, these passages make no mention of compact film formation. Accordingly, for at least this additional reason, the rejection of claims 33 and 44, and their dependent claims, should be withdrawn.

Claims 55 and 56, which depend from claims 1 and 19, are further distinguished because, for the same reasons, Jung does not describe or suggest compacting the mixed region through the

irradiation with light to form a compacted mixed region comprising the first organic compound and the second organic compound, as recited in those claims.

Independent claim 57 recites compacting a layer of a compound by irradiating light to form a compacted layer comprising the compound. Accordingly, the rejection of claim 57 and its dependent claims should be withdrawn because, as discussed above, Jung does not describe or suggest such compacting.

Independent claim 61 recites forming a layer comprising a mixture of first and second compounds and irradiating with light to form a compacted layer comprising the mixture. Accordingly, the rejection of claim 61 and its dependent claims should be withdrawn because, as discussed above, Jung does not describe or suggest forming a layer comprising a mixture or compacting.

Applicant submits that all claims are in condition for allowance.

The fees in the amount of \$630 for the two month extension of time (\$450) and the information disclosure statement (\$180) are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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